

A Cup Pad with a Radiation Means

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention is related to a cup pad with a radiation means,
5 especially to the cup pad automatically radiating with variable colors while a cup
being put thereon for improving effects.

2. Description of the Prior Art

The original purpose for cup pad is to cushion the effect of heat from hot
water for the table surface being damaged, and another purpose is to keep it in a clean
10 stage. As the cup pad being used for a while, more functions as decoration, artistry and
interest were added, and the functions can be approached by the structure, appearance
and colors of the cup pad. Presently, there are many types of cup pads in the market for
a while, hence the attraction is gradually lost, and a cup pad connecting a radiation
means is then developed. In prior arts, to simply drill a hole on a body of the cup pad
15 and install a light-source means with controlling device therein for the body being
radiated itself, although the function of interest is done, manual operation is another
inconvenience, further that, the light is not variable; another advanced design is a
radiation means assembled by a radiation piece driven by a controller and a pervious
member being installed in a containing room of the body. The controller drives the
20 radiating piece to have light going through the pervious member with some special
patterns, and therefore the patterns are appeared on a surface of the cup pad, but
unfortunately, it is still manual, and the complicate structure costs high, so the
improvement for the prior art is exist as well.

SUMMARY OF THE INVENTION

A cup pad with a radiation means, comprising a body, a pervious containing room, a radiation unit and a switch. At least one hole base being on a suitable position 5 of the body is capable of installing the pervious containing room in the body, and a display of the pervious containing room is placed on a surface of the body. The radiation unit with a PCB (printed circuit board) of a receiver is embedded in the pervious containing room, plural LEDs controlled by IC chips are on a surface of the radiation unit, another bottom surface has circuits and a power. Thus, the surface with 10 LEDs is corresponding to the display of the pervious containing room; the bottom surface with circuits and the power is relative to a back cover of the pervious containing room, that is, on a bottom surface of the body. The switch of the radiation unit is comparative to the circuits, and a switching element of the switch is laid on the bottom surface of the body via the back cover of the pervious containing room. While 15 the surface of the body being put a cup, a weight of the cup is able to drive the switching element; on the other hand, both electric waves generated by receiving or dialing of a mobile phone are received by the receiver to drive the circuits of the radiation unit, and thus the LEDs controlled by IC chips illuminate variable lights. The lights go through the display of the pervious containing room, and continuously the 20 lights are appeared on the surface of the body. The main objective of the present invention is that the body generates multiple flash lights during the process of placing on and taking away the cup and the waves of receiving and dialing from the mobile phone. Because of its automatic functions and variable flash lights, the interests are

highly promoted.

BRIEF DESCRIPTION OF THE DRAWINGS

5 Fig. 1 is an explored 3-D view of a first preferred embodiment of the present invention.

Fig. 2 is a top view of a surface of a PCB of the first preferred embodiment of the present invention.

10 Fig. 3 is a top view of a bottom surface of the PCB of the first preferred embodiment of the present invention.

Fig. 4 is a sectional view of the first preferred embodiment of the present invention.

Fig. 5 is a sketch of an application of the first preferred embodiment of the present invention.

15 DETAILED DESCRIPTION OF THE INVENTION

Please refer to Fig. 1, which is an explored 3-D view of a first preferred embodiment of the present invention. The present invention comprises a body 1, a pervious containing room 2, a radiation unit 3 and a switch 30, wherein a suitable 20 position of the body 1 is set a hole base 10, the hole base 10 is shaped as multiple layers on a surface of the body 1, an outer layer 101 is laid on a gasket 11 of the surface of the body 1, an inner layer 102 is set on the pervious containing room 2 for the room 2 stably positioning on the surface of the body 1. Besides, the pervious

containing room 2 is a transparent containing room, which includes a screwed back cover 21, a cooperation of a projecting ring 20 on a top edge of the room 2 and the inner layer 102 on the surface of the body 1 is capable of keeping an upper display 22 of the room 2 and the gasket 11 of the body 1 on a same plane, shown as Fig. 4, that is,
5 to make the cup pad being horizontal. The radiation unit 3 is embedded on the room 2 and includes the switch 30 and a PCB 31 with a receiver 317. As shown in Fig. 2, a plurality of LEDs 313 driven by an IC chip 312 on a surface 311; as shown in Fig. 3, another bottom surface 314 has circuits 315 and a power 316. The switch 30 of the radiation unit 3 is fit in the cover 21 of the room 2, and thus using a switching element
10 301 of the switch 30 to cooperate with the hole 210 of the back cover 21 for the switching element 301 elongating to a bottom portion of the back cover 21, continuously, the PCB 31 of the radiation unit 3 is embedded in the previous containing room 2 of the surface of the body 1, therefore the surface 311 is corresponding to the display 22 of the room 22. As shown in Fig. 4, after fastening the
15 back cover 21 by screwing, the switching element 301 of the switch 30 is thus comparative to the circuits 315 of the bottom surface 314 of the PCB 31, the switching element 301 elongates to the bottom surface of the body 1 simultaneously.

As shown in Fig. 5, while in application, a cup 4 is put on the body 1, the weight of the cup 4 drives the switching element 301 elongating in the bottom surface
20 of the body 1. Due to the switching element 301 being made of soft conductive rubber and partially adhered on the back cover 21, the pressing force of the weight is to let the switching element 301 moving up to touch the circuits 315 of the bottom surface 314 of the PCB 31, the power 316 then drives the IC chip 312 on the surface 311 of the

PCB 31 to control the LEDs 313 emitting. The display 22 of the room 2 comparative to the surface 311 then shows flash lights; on the contrary, while the cup 4 being taken away from the body 1, the pressing force from the weight of the cup 4 is gone, the switching element 301 recovers by its own flexibility and elongates to the original 5 position in the bottom surface of the body 1, and the power 316 is cut off, so the LEDs 313, the IC chip 312 stop working. Following the cup 4 being put on and taken away, the surface of the body 1 automatically emits flash lights; on the other hand, the receiver 317 drives the power 316 to let the IC chip 312 on the surface 311 of the PCB 31 control a plurality of LEDs 313 emitting for appearing an incoming phone.

10 Obviously, the features of the convenience and the interest of the present invention are advanced than the prior arts.

Although this invention has been disclosed and illustrated with reference to particular embodiments, the principles involved are susceptible for use in numerous other embodiments that will be apparent to persons skilled in the art. This invention is, 15 therefore, to be limited only as indicated by the scope of the appended claims.